

limiting the collection of data and deleting data once it is no longer needed. In addition, and when applicable, including in certain health related applications, data de-identification can be used to protect a user's privacy. De-identification may be facilitated, when appropriate, by removing identifiers, controlling the amount or specificity of data stored (e.g., collecting location data at city level rather than at an address level), controlling how data is stored (e.g., aggregating data across users), and/or other methods such as differential privacy.

[0114] Therefore, although the present disclosure broadly covers use of personal information data to implement one or more various disclosed embodiments, the present disclosure also contemplates that the various embodiments can also be implemented without the need for accessing such personal information data. That is, the various embodiments of the present technology are not rendered inoperable due to the lack of all or a portion of such personal information data. For example, content can be selected and delivered to users based on aggregated non-personal information data or a bare minimum amount of personal information, such as the content being handled only on the user's device or other non-personal information available to the content delivery services.

[0115] The present document provides illustrations and descriptions, but is not intended to be exhaustive or to limit the scope of the invention to the precise form disclosed. Modifications and variations are possible in light of the above teachings or may be acquired from practice of various implementations of the present disclosure.

What is claimed is:

1. A modular host system comprising:

one or more processors;

a host unit configured to be coupled to a support structure of a building and configured to:

receive and house an accessory; and

electrically couple to an electrical source,

the host unit including:

a power gating module, controlled by the one or more processors, and configured to couple electrical power from the electrical source to the accessory; and

a communication module, controlled by the one or more processors, and configured to communicate with one or more additional host units installed in the building, wherein the communication module communicates by sending or receiving communication data with the one or more additional host units,

wherein the one or more processors are configured to:

determine a distance between the host unit and each of the one or more additional host units based on the communication with the one or more additional host units; and

determine a floor plan of the building based at least on the distance from the host unit to each of the one or more additional host units.

2. The modular host system of claim 1 further comprising:

a self-orientation module, controlled by the one or more processors, and configured to determine an orientation of the host unit,

wherein the one or more processors further determine the floor plan of the building based on the orientation of the host unit.

3. The modular host system of claim 2, wherein the self-orientation module includes:

a multi-antenna array configured to send and receive communication data from multi-antenna arrays of the one or more additional host units, wherein the orientation of the host unit is based on a phase angle of arrival of the communication data from the one or more additional host units.

4. The modular host system of claim 2, wherein the self-orientation module includes:

a magnetometer operating as a compass; and

an accelerometer configured to detect an orientation of the host unit relative to a direction provided by the magnetometer.

5. The modular host system of claim 1 further comprising an authentication module,

wherein in response to the host module receiving the accessory, the authentication module is configured to receive an authentication request from the received module and provide access to one or more of the electrical power from the power gating module and communication resources from the communication module.

6. The modular host system of claim 1, wherein the power gating module includes an electrically operated relay configured to:

couple the electrical power received from the electrical source to the accessory while the accessory is communicatively coupled to the host unit; and

block the electrical power received from the electrical source while the accessory is communicatively decoupled from the host unit.

7. The modular host system of claim 1, wherein the communication module communicates with the one or more additional host units using at least one of an ultra-wide band (UWB), radar, ultrasonic, or IEEE 802 communication protocols.

8. The modular host system of claim 1 further comprising a networking interface module configured to provide wireless communication resources to the accessory in response to the accessory being physically coupled to the host unit and the accessory being authenticated.

9. The modular host system of claim 1 further comprising a communication gating module configured to provide wired network access to the accessory in response to the accessory being physically coupled to the host unit and the accessory being authenticated.

10. The modular host system of claim 1, wherein the accessory is one of a list of accessories comprising:

an electrical power outlet;

a thermostat;

an image detection device;

an audio detection device;

an audio source device;

a light source;

a video source;

a touchscreen user input device; and

a control switch.

11. A method of operating a modular system, the method comprising:

establishing an electronic communication between a host unit and one or more additional host units in the building, wherein the host unit is embedded within a support structure of a building;

determining a distance from the host unit to the one or more additional host units based on the electronic